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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte FRANK LANGE, DETLEF HENRICH, and MATHIAS KRAUSS

Appeal 2015-001061
Application 11/489,214
Technology Center 3600

Before JENNIFER D. BAHR, JOHN C. KERINS, and SEAN P. O'HANLON, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Frank Lange et al. (Appellants) appeal under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1–3 and 5–10 under 35 U.S.C. § 103(a) as unpatentable over Strazar (US 5,499,430, iss. Mar. 19, 1996) and Grzesiak (US 5,078,237, iss. Jan. 7, 1992). We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE and enter NEW GROUNDS OF REJECTION pursuant to our authority under 37 C.F.R. § 41.50(b).

THE CLAIMED SUBJECT MATTER

Claim 1, reproduced below, is illustrative of the claimed subject matter.

> 1. A clamp comprising a clamp band and a mounting element connected to the clamp band, the clamp further comprising a clinch connection for connecting the mounting element to the clamp band, the clinch connection including an embossment on an outer side thereof, wherein the clamp band has a radially extending projection that engages in the embossment of the clinch connection so as to fix the mounting element to the clamp band.

DISCUSSION

The Examiner's rejection of claims 1–3 and 5–10 as being unpatentable over Strazar and Grzesiak is predicated in part on the Examiner's determination that it would have been obvious to replace the rivet connection of Strazar with the clinch connection (with embossment and projection) of Grzesiak "because these two fastening means with rivet and embossment / projection connection were art-recognized equivalent[s]" at the time of Appellants' invention. Final Act. 2–3.

Appellants argue, *inter alia*, that "Grzesiak does not teach that a rivet connection and a clinch connection are equivalent" and "[t]he Examiner's statement that the connections of Strazar and Grzesiak are 'art-recognized equivalent' is unsupported by any evidence." Appeal Br. 14, 20.

A conclusion of obviousness must be supported by explicit findings and analysis establishing an apparent reason to combine the known elements in the manner required in the claim at issue. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). The Examiner does not proffer any evidence or technical explanation to support the assertion that the rivet connection of

Strazar and the connection (i.e., "clinch fastening" or "clinched fasteners") taught by Grzesiak were art-recognized equivalents at the time of Appellants' invention. *See* Ans. 3 (merely reiterating that the substitution would have been obvious because these two fastening means were art-recognized equivalents); Grzesiak 2:24–25; 3:15, 31; 4:49. Grzesiak describes clinch fastening and spot welding as alternatives for securing the two layers of the strap, thereby suggesting that clinch fastening and spot welding were art-recognized equivalents for securing layers of material together. *Id.* 2:24–25; 3:30–33. However, Grzesiak makes no mention of rivets, and the Examiner does not explain the basis for the assertion that rivets and clinch fastening were art-recognized equivalents.

Therefore, the Examiner fails to set forth the requisite factual findings and analysis establishing an apparent reason to combine the references to support the conclusion of obviousness of the subject matter of independent claims 1 and 10. Accordingly, we do not sustain the Examiner's rejection of claims 1–3 and 5–10 under 35 U.S.C. § 103(a) as unpatentable over Strazar and Grzesiak.

NEW GROUNDS OF REJECTION

Pursuant to our authority under 37 C.F.R. § 41.50(b), we enter the following new grounds of rejection.

I. **Claims 1, 5–7, 9, and 10 are rejected under 35 U.S.C. § 103(a) as unpatentable over Strazar and Obrecht (US 4,803,767, iss. Feb. 14, 1989).**[1]

[1] Obrecht is a newly-cited reference relied on by the Board.

Claims 1, 5, and 10:

Strazar discloses a clamp (system 10) comprising a clamp band (clamp 12) and a mounting element (spring clips 44) connected to the clamp band by rivets 48. Strazar 4:26–5:3; Figs. 1, 2, 5. Strazar's rivet connection is not a clinch connection including an embossment and a radially extending projection in the clamp band that engages in the embossment of the clinch connection, as recited in claims 1 and 10, nor does it provide a deformation of a material of the clamp band and a material of the mounting element perpendicular to a surface extension of the clamp band and mounting element, as recited in claim 10.

Obrecht teaches that it was known to fasten sheets of materials together by deforming them in a clinching operation as an alternative to riveting in order to overcome the recognized disadvantages of riveting (i.e., high capital investment and production of bulky joints that are unacceptable in many applications). Obrecht 1:5–21. Thus, in view of Obrecht's teachings, it would have been obvious to one of ordinary skill in the art to replace Strazar's rivet connection with a clinch connection to overcome the known disadvantages of rivet connections.

As illustrated in Obrecht's Figures 1 and 6, for example, the clinching operation deforms the material in both sheets in a direction perpendicular to a surface extension of those sheets, forming a projection in one sheet that engages in an embossment in the other sheet to produce the clinch connection. Thus, a clinch connection as taught by Obrecht securing Strazar's spring clips 44 to clamp 12 would comprise a deformation in each of the spring clips and the clamp that is perpendicular to a surface extension of each of the spring clips and the clamp, thereby forming a radially

extending projection in one of the spring clip and the clamp that engages in an embossment in the other of the spring clip and the clamp. In other words, there are only two alternatives for the arrangement of the projection and the embossment in the clinch connection — either the projection is formed in the clamp and the embossment is formed in the clip, or the embossment is formed in the clamp and the projection is formed in the clip — both of which are predictable solutions well within the technical grasp of a person of ordinary skill in the art. Thus, the selection of either would have been obvious. *See KSR*, 550 U.S. at 421 ("When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.").

With respect to claim 5, the recitation "wherein the clamp band is deformed into the mounting element" simply denotes one of the two aforementioned alternatives for the clinch connection — namely, the one in which the clamp band is deformed into the mounting element, thereby forming a projection in the clamp band that engages in an embossment in the mounting element. Once again, where, as here, there are a finite number of identified, predictable solutions, the selection of either amounts not to innovation, but to the exercise of ordinary skill, and, thus, would have been obvious. *See id.*

Claim 6:

Strazar discloses that the preferred materials for the clamp band (clamp 12) are plastic or metal and that the preferred material for the mounting element (fingers/spring clips 44) is a flexible, resilient material, such as plastic or metal. Strazar 5:4–7. Strazar expresses no preference as

to whether the clamp band and the mounting element are made of the same material or different materials. *See id.* (expressing only a preference for a clamp band of sufficient thickness to allow relatively limited flexibility and resilience, in contrast to the fingers, in which flexibility and resilience is desired). Accordingly, the selection of either the same material or different materials for Strazar's clamp band and spring clips, which amounts to a selection from among a finite number (i.e., two) of predictable options, would have been obvious to a person of ordinary skill in the art. *See KSR*, 550 U.S. at 421.

Claim 7:

Strazar discloses clamps made of stainless steel, which is a chromium steel. Strazar 5:35–36.

Claim 9:

Strazar's clamp is a worm drive clamp comprising a rotatable member 32 having threads 34 for cooperating with recesses 18 in clamp 12 to tighten or loosen the clamp, and, thus, is a worm gear clamp as called for in claim 9. Strazar 4:28, 31–33, 39–50. Further, Strazar's spring clips 44 are prepositioning clips as called for in claim 9. *Id.,* Figs. 1–2; 4:51–52; 4:65–5:3; 5:8–34.

II. Claims 2 and 3 are rejected under 35 U.S.C. § 103(a) as unpatentable over Strazar and Obrecht, as applied to claim 1 above, and Cronn (US 5,230,136, iss. July 27, 1993).[2]

Obrecht does not specifically teach a clinch connection having a polygonal or hexagonal cross-section, as called for in claims 2 and 3, respectively. However, Cronn teaches that, in addition to punches having a

[2] Cronn is a newly-cited reference relied on by the Board.

circular cross-section, "punches having an oval, rectangular or other form of cross-section can be used with satisfactory results" for a clinching operation. Cronn 5:29–38. Thus, a clinch connection having a polygonal cross-section, such as a rectangular or hexagonal cross-section, would have been well within the technical grasp of a person having ordinary skill in the art and would have been obvious for use in securing Strazar's spring clips 44 to clamp 12.

DECISION

The Examiner's decision rejecting claims 1–3 and 5–10 under 35 U.S.C. § 103(a) as unpatentable over Strazar and Grzesiak is REVERSED.

We enter a new ground of rejection of claims 1, 5–7, 9, and 10 under 35 U.S.C. § 103(a) as unpatentable over Strazar and Obrecht.

We enter a new ground of rejection of claims 2 and 3 under 35 U.S.C. § 103(a) as unpatentable over Strazar, Obrecht, and Cronn.

FINALITY OF DECISION

This decision contains new grounds of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review." 37 C.F.R. § 41.50(b) also provides:

> When the Board enters such a non-final decision, the appellant, within two months from the date of the decision, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

> (1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new Evidence relating to the claims so rejected, or both, and have the matter reconsidered by the Examiner, in which event the prosecution will be remanded to the Examiner. The new ground of rejection is binding upon the examiner unless an amendment or new Evidence not previously of Record is made which, in the opinion of the examiner, overcomes the new ground of rejection designated in the decision. Should the examiner reject the claims, appellant may again appeal to the Board pursuant to this subpart.
>
> (2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same Record. The request for rehearing must address any new ground of rejection and state with particularity the points believed to have been misapprehended or overlooked in entering the new ground of rejection and also state all other grounds upon which rehearing is sought.

Further guidance on responding to a new ground of rejection can be found in the Manual of Patent Examining Procedure § 1214.01.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

REVERSED; 37 C.F.R. § 41.50(b)